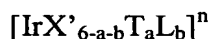


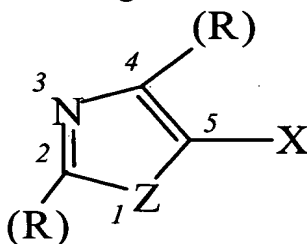
**WHAT IS CLAIMED IS:**

1. A silver halide emulsion comprising radiation sensitive silver halide grains exhibiting a face centered cubic crystal lattice structure containing a hexacoordination complex of an iridium ion in which at least half of the coordination sites in the hexacoordination complex are provided by halogen or pseudohalogen ligands, and at least one coordination site is provided by a ligand comprising a heterocyclic azole ring containing a chalcogen atom and a nitrogen atom, wherein the azole ring is substituted at the 5-position with a halide ion.

2. An emulsion according to claim 1, wherein the iridium hexacoordination complex is represented by the Formula I:



where Ir represents iridium(III) or iridium (IV) ions; each X' is a halide or pseudohalide ion or any mixture of these; subscript a is 1, 2 or 3; each L represents a ligand which is distinct from X' and T; subscript b is 0, 1 or 2; the sum of subscripts a and b is 1 to 3; n represents the net charge of the coordination complex; and each T represents a ligand of the formula:



wherein Z represents a chalcogen atom; X represents a fluoride, chloride, bromide, or iodide ion, and each R independently represents H or a substituent.

3. An emulsion according to claim 2, wherein Ir represents iridium (III).

4. An emulsion according to claim 3, wherein subscript a represents 1 or 2, and subscript b represents 0 or 1.

5. An emulsion according to claim 4, wherein subscript a represents 1.

6. An emulsion according to claim 5, wherein subscript b represents 0.
7. An emulsion according to claim 2, wherein Z represents oxygen or sulfur.
8. An emulsion according to claim 2, wherein Z represents sulfur.
9. An emulsion according to claim 2, wherein half or more of X' ligands are halide ligands.
10. An emulsion according to claim 2, wherein all the X' ligands are halide ligands.
11. An emulsion according to claim 2, wherein half or more of the X' ligands are chloride ligands.
12. An emulsion according to claim 2, wherein half or more of the X' ligands are bromide ligands.
13. An emulsion according to claim 2, wherein b represents 1 and L is selected from NO, NS, CO, O, HOH, and NH<sub>3</sub>.
14. An emulsion according to claim 2, wherein X represents a chloride or a bromide ion.
15. An emulsion according to claim 2, wherein X represents a bromide ion.
16. An emulsion according to claim 1, wherein the iridium coordination complex dopant is selected from  $[\text{IrCl}_5(5\text{-chloro thiazole})]^{2-}$ ,  $[\text{IrCl}_5(5\text{-bromo thiazole})]^{2-}$ ,  $[\text{IrCl}_4(5\text{-bromo thiazole})_2]^{1-}$ , and  $[\text{IrBr}_5(5\text{-bromo thiazole})]^{2-}$ .
17. An emulsion according to claim 1, wherein the iridium coordination complex dopant is  $[\text{IrCl}_5(5\text{-bromo thiazole})]^{2-}$ .

18. An emulsion according to claim 1, wherein the iridium coordination complex dopant is  $[\text{IrCl}_5(5\text{-chloro thiazole})]^{2-}$ .
- 5                    19. An emulsion according to claim 1, wherein the iridium coordination complex dopant is  $[\text{IrCl}_4(5\text{-bromo thiazole})_2]^{1-}$ .
20. An emulsion according to claim 1, wherein the iridium coordination complex dopant is  $[\text{IrBr}_5(5\text{-bromo thiazole})]^{2-}$ .
- 10                    21. An emulsion according to claim 1, wherein the silver halide grains are chosen from among silver bromide, silver iodobromide, silver chlorobromide, silver iodochlorobromide, silver chloriodobromide, silver chloride, silver bromochloride, silver iodochloride, silver bromiodochloride, and
- 15 silver iodobromochloride.
22. A color negative film photographic element comprising a support having coated thereon at least one iridium doped emulsion according to claim 1, wherein the emulsion comprises high bromide tabular grains.
- 20                    23. A color negative film element according to claim 22, wherein the iridium doped emulsion comprises at least 70 mole percent bromide, 0-30 mole percent iodide, and 0-30 mole percent chloride, based on total silver.
- 25                    24. A color negative film element according to claim 23, wherein the iridium doped emulsion comprises at least 80 mole percent bromide, 0-15 mole percent chloride, and 0.25-15 mole percent iodide.
- 30                    25. A photothermographic element comprising a support having coated thereon at least one iridium doped emulsion according to claim 1, wherein the emulsion comprises high bromide tabular grains.
- 35                    26. A photothermographic element according to claim 25, wherein the iridium doped emulsion comprises at least 70 mole percent bromide, 0-30 mole percent iodide, and 0-30 mole percent chloride, based on total silver.

27. A photothermographic element according to claim 26, wherein the iridium doped emulsion comprises at least 80 mole percent bromide, 0-15 mole percent chloride, and 0.25-15 mole percent iodide.

5                    28. A color paper photographic element comprising a support having coated thereon at least one iridium doped emulsion according to claim 1, wherein the emulsion comprises high chloride cubical grains.

10                   29. A color paper element according to claim 28, wherein the iridium doped emulsion comprises at least 70 mole percent chloride, 0-30 mole percent chloride, and 0-10 mole percent iodide, based on total silver.

15                   30. A color paper element according to claim 29, wherein the iridium doped emulsion comprises at least 90 mole percent chloride, 0-10 mole percent bromide, and 0-5 mole percent iodide.